DoubleDOS

SoftLogic Solutions

PREFACE

Computers evolved from the need for increased productivity. As time passed, the personal computer emerged, giving us a tool to help increase the productivity of both individuals and enterprises. Now, DoubleDOS has been created to help you to further expand the productivity of your Personal Computer.

DoubleDOS is designed to run applications that are written for either PC DOS, or MS DOS. With DoubleDOS you can run two of these programs simultaneously!

With DoubleDOS, you can run an application that does a long print job, a long calculation, a compiler or any other job and at the same time you'll still have your PC available to do a second job, such as a spreadsheet or a word processor.

DoubleDOS is one of the fine line of high quality software products produced at SoftLogic Solutions Inc.

DoubleDOS

INTRODUCTION

DoubleDOS is one of the high quality software products from SoftLogic Solutions Inc. This multi-tasking software has been created to aid you in increasing the productivity of your personal computer, without adding complexity to your operation.

The knowledge you have already acquired in running your applications is probably more "knowhow" than you'll need to both install and use DoubleDOS.

DoubleDOS is readily customized to meet your specific application and system configuration requirements.

This document will guide you thru the primary setup and installation of your DoubleDOS software. There is a section to assist you with the simple customization procedures and there are also handy reference guides should you need them.

Be sure to perform the INSTALL procedure as described in Chapter 1 before you try to use the DoubleDOS diskette.

If you use the communication ports please be sure to read chapter 3, section 13 (3.13 Communications Control).

GOOD LUCK and enjoy your DoubleDOS!

CHAPTER 1

1.0 Install/Uninstall Procedures and Load Methods

Before DoubleDOS can be loaded or run, you must install it, but before you install it, you may need to know how you are going to want to load it.

There are two basic methods for starting DoubleDOS, one is referred to as the "MANUAL LOADING" method, the other is the "AUTOMATIC LOADING" method. After it has been started, DoubleDOS functions in exactly the same manner no matter which load method is used.

The original DoubleDOS disk is intended as a "MASTER". It has all of the necessary programs to both configure and operate DoubleDOS;

**BUT
THE PROGRAM WILL NOT LOAD OR RUN
FROM THIS DISK.**

To run DoubleDOS, it must first be installed on a hard disk or a diskette that has at least 75,000 bytes free (see "Installation procedure" later in this chapter).

If DoubleDOS is installed to a diskette, that diskette may be formatted either as a non-system disk or as a system disk. But, if the disk is to be used for automatic loading, it must be formatted as a system disk. See the DOS manual for details on the format command.

Once you have performed the install, and regardless of whether it was to a diskette or a hard disk, you may still choose either the "manual" or "automatic" loading method.

1.1 Overview Of The Loading Methods

Manual loading means that the system is already running an acceptable version of DOS and therefore DoubleDOS can be started by a manually entered command at any time, provided there is no program running.

Automatic loading means that DoubleDOS gets loaded into memory and becomes active whenever the system is started, or, as it is called in computer jargon, "booted".

We expect that most of you will be "FULL TIME" users, those who always have DoubleDOS active, but some may only want to use it on a "PART TIME" basis. Normally, the full time users will opt for "AUTOMATIC LOADING" while the part time users are more likely to choose the "MANUAL LOADING" method.

With either load method, the manner in which DoubleDOS will actually start is under the control of the special DoubleDOS configuration options file named "ddconfig.sys". This file is a powerful tool that allows you to customize DoubleDOS to your specific applications and needs. There is a complete description of the configuration options in chapter 3. Be sure to read chapter 3 once you have become somewhat familiar with the DoubleDOS operation.

No matter which load method is used, the system command processor file, "command.com", must be available to start DoubleDOS. To determine where DoubleDOS will search for COMMAND. COM, you can type the keyboard command "set". The "COMSPEC=" line will show the place where COMMAND. COM is expected. The set command can also be used to modify COMSPEC.

1.2 Manual Loading

Manual loading means that the system is already running an acceptable level of DOS, and that you now want to start DoubleDOS. To start DoubleDOS first be sure that there is no program running. Next, select the section below that matches your particular application.

1.2.1 Manual loading From A Diskette

Once installed on a diskette, DoubleDOS will load in the same manner as any other program that you would load from a diskette, or to be precise:

1. With DOS already loaded and running make some diskette drive the default drive.

2. Put the working copy of DoubleDOS in the default drive and type "doubledos" without the quotes.

3. Strike enter.

Although this procedure is valid for hard disk systems we do recommend that the install be performed to the hard disk. With DoubleDOS installed on a hard disk you still have the option of "automatic" or "manual" loading.

1.2.2 Manual loading From A Hard Disk

DoubleDOS may be installed to a hard disk. If this is your case, and the statement "doubledos" does NOT exist in the "autoexec.bat" file, you must load DoubleDOS manually. To do this make the hard disk that contains the DoubleDOS files the default drive. Now type "doubledos" without the quotes, and then strike enter.

We anticipate that most users who have a hard disk will prefer to use automatic loading.

1.3 Automatic Loading, Diskette Or Hard Disk

Automatic loading means that an entry of "doubledos" is present in the "AUTOEXEC.BAT" file, or some other .BAT file that gets executed when the system is started. This BATch file must exist on the diskette, or the hard disk, used to load (boot) the system. Further, the install procedure for DoubleDOS must have been performed on said disk. Entries that follow the "doubledos" entry in the AUTOEXEC file are executed in the "TOP" memory section only.

The "AUTOEXEC.BAT" file can be used to execute the DATE and TIME commands, and/or to start programs, this includes Double-DOS. You can have other instructions in the "BATch" file as long as they do not conflict with DoubleDOS. You can create an "autoexec.bat" file, as defined in your DOS manual, with almost any edit program.

When a system loads, the "autoexec.bat" file executes. This will cause DoubleDOS to load, and when DoubleDOS has completed its own loading sequence, it executes a list of instructions from the "ddconfig.sys" file. Chapter 3 has detailed descriptions for all the configuration options that are available in the "ddconfig.sys" file.

1.3.1 Hard Disk Auto-load

In this section we assume that the hard disk is already being used to load the system.

To have DoubleDOS loaded automatically from a hard disk the DoubleDOS install must have been performed to that hard disk, that disk must have an "autoexec.bat" file, and the "autoexec.bat" file must have "doubledos" as an entry. Each time the system starts, DoubleDOS will load and start.

1.3.2 Diskette Auto-load

To do automatic loading from a diskette, that disk must first have been formatted as a "system disk", it must have had the Double-DOS install procedure performed on it, and it must have an "autoexec.bat" file with "doubledos" as an entry. Whenever a system is started using this disk, DoubleDOS will automatically load and run.

1.4 Install Procedure Overview

The DoubleDOS diskette that you receive is intended to be used only as a "MASTER". It contains all the necessary programs to both configure and operate DoubleDOS, but, THE PROGRAM WILL NOT LOAD OR RUN FROM THIS DISKETTE.

To run DoubleDOS you must first "install" it on either a hard disk or to a diskette that has at least 75,000 bytes free. Once the installation is complete, the original disk should be retained as a back-up and as a repository for the configuration files that may be needed later on as you add features or certain software applications to your system.

The install procedure may be performed up to three (3) times without doing an "UNINSTALL". See the "UNINSTALL" procedure for directions on how to restore the "INSTALL" count in the event your working disk becomes inoperable or if for any reason you wish to move DoubleDOS to a different media.

1.5 INSTALLation

The installation procedures described in this chapter can be performed with any PC that has a diskette drive, but before you can actually run DoubleDOS your system must meet the minimum requirements as defined in chapter 5.

Once the "install" procedure has been initiated it is prompt driven. The prompts refer to the DoubleDOS disk as the "Product Diskette", where-as the diskette, or the hard disk, that you are installing "TO", is referred to as the "Target Diskette".

SPECIAL NOTE:

If you are installing to a DISKETTE, be sure that the disk has been properly formatted and that it has a copy of the "command.com" file from your particular version of DOS. If you are installing to a HARD DISK, it must have a copy of the "command.com" file from your particular version of DOS.

Before starting the installation process, you should remove any "accessory" software (such as PROKEY, SIDEKICK, etc.), as well as any RAMdisks, or other "resident" type of software. This will help insure a successful installation as the install procedure may produce errors if other software is resident while "INSTALL" is being run.

To initiate the INSTALL program follow this procedure:

1. Make sure the default drive is set to "A" by typing "a:" (without the quotes) then strike ENTER.

2. Place the original DoubleDOS disk in the "A" drive and type "INSTALL A n" without the quotes. The "n" represents the drive, A thru H, that DoubleDOS is being installed onto (for example "install a c"). Type in the command with the correct drives defined and then strike ENTER.

3. Follow the prompts on the screen.

In those rare cases where the install procedure fails, try it one or two more times. If you still can't achieve a successful install and you have:

A Hard Disk and One Diskette Drive –   go to section 1.5.1

Two (or more) Diskette Drives –   go to section 1.5.2
A One Diskette Drive System –   go to section 1.5.3

1.5.1 Install failure (Hard Disk System)

On systems with more than one diskette drive try to do the install using a different drive. If this doesn't work, or if there is only one diskette drive, DoubleDOS can be started from a diskette. Re-do the install using the "F" selection.

1.5.2 Install failure (Two Drive System)

Try swapping the disks, change the default to "B" and re-do the install procedure installing from drive "B" to drive "A". If this fails try doing the install as though you had a one drive system. If neither of the above procedures worked, go to section 1.5.3.

1.5.3 Install failure (One Drive System)

It should be noted here that it is a very rare occurrence to end up in this section, especially if your drives are any of the more "standard" brands.

THE LAST RESORT

We almost called this section "do you have a friend", because the best bet now is to locate a system that will perform the install. Thus if you know someone who has a system, you might ask them to allow you to use it to make your working disk.

If all else has failed, and ONLY after everything else has failed, you can convert the original DoubleDOS diskette into a working diskette -BUT- when you do this you will no longer have any backup for DoubleDOS.

To do the conversion, use the "REName" function of DOS. With DOS running, place the original DoubleDOS diskette in the default drive, type: "ren ddos doubledos.com" (without the quotes) and then hit ENTER.

Next use the DOS copy command to copy the "command.com" file from your particular version of DOS, to the DoubleDOS diskette. The original DoubleDOS diskette is now a working diskette but it is the ONLY copy that you have. This disk can NOT be used to load (boot) the system.

1.6 Uninstall Procedure Overview

When shipped the DoubleDOS diskette is set up to allow up to 3 installs. The installs can be done to a hard disk or to a diskette. We provide the three install capability as a backup in the event that the media that is being used as the DoubleDOS working copy becomes so inoperative that the uninstall procedure will not function.

The UNINSTALL procedure is provided as a means to move the working copy of DoubleDOS to a different media. If the working media becomes damaged you should always attempt the uninstall, even if the DoubleDOS software is inoperable, as the uninstall procedure will often function anyway.

A successful uninstall will add 1 to the install count on the original DoubleDOS disk.

1.6.1 Uninstall

To perform an uninstall follow these steps:

1. Set the default to "A" by typing "a:" (without the quotes) and strike enter.

2. Place the original DoubleDOS disk in the "A" drive and type "UNINSTALL A n" without the quotes. The "n" represents the drive, A thru H, that DoubleDOS is being uninstalled from (for example "uninstall a c"). Type in the command with the correct drives defined and then strike ENTER.

3. Follow the prompts on the screen.

The messages on the screen tell you whether or not the uninstall was successful.

CHAPTER 2

2.0 General Operation

As with any other software application DoubleDOS uses a portion of your system's memory (RAM). By dividing up the remaining memory on your PC into separate sections, and by providing the ability to toggle between these sections, DoubleDOS can run two programs at the same time, just as though you had two PCs.

The control for the operation of the programs, as well as the system resources, is accessed through the DoubleDOS control and status menu. See chapter 4 for a description of each of the menu functions.

In general, DoubleDOS allows you start a program in one of the memory sections. Once the program has been started it can be allowed to run while another program is started in the other memory section.

You may toggle between the programs whenever you wish by using the EXCHANGE key or through the DoubleDOS menu.

2.1 Starting DoubleDOS For The First Time

Once you have completed the installation procedure as described earlier, you are ready to start DoubleDOS, but before you do this you may need to reconsider the use of certain "option" or "accessory" type software products.

In general, any accessory software other than RAM disks and hardware device drivers for "add on" disks, should be loaded after DoubleDOS. Programs like SIDEWAYS and PROKEY must be loaded after DoubleDOS in order for them to function together.

2.2 AUTOEXEC.BAT File Considerations

You may wish to create one or two new batch files to contain the programs which, prior to DoubleDOS, would have been in the AUTOEXEC.BAT file. To have programs started automatically by DoubleDOS, list them in a batch file and then list the batch name in the "DDCONFIG.SYS" file under "TOP PROGRAM" and/or "BOTTOM PROGRAM". See chapter 3 for complete details.

2.3 When DoubleDOS Starts

DoubleDOS will always start with the TOP MEMORY SECTION designated as the section to run the VISIBLE program. This also means that the keyboard and the display, when there is only one, are initially assigned to the TOP MEMORY SECTION.

This DOES NOT imply that the TOP MEMORY SECTION must be used first. You may switch to the BOTTOM MEMORY SECTION to start the first program if you wish.

This DOES imply that even if a program is automatically started in the BOTTOM MEMORY SECTION, via a BOTTOM PROGRAM statement in the "ddconfig.sys" file, DoubleDOS will still start with the keyboard and the display assigned to the TOP MEMORY SECTION.

2.4 Menu Control

The control menu provides an access to various features of DoubleDOS. It further provides a status display that shows the names of the programs that are loaded into each memory partition. Also included in this display are other system resource allocations, such as the amount of memory assigned to each MEMORY SECTION, the program name which is resident in each MEMORY SECTION, and whether a program is SUSPENDed or ACTIVE.

DoubleDOS uses a two key combination, the default is (ALT/DEL), to call up its special control menu. Once you have loaded DoubleDOS, as described in chapter 1, you can type the ALT/DEL combination at any time and the DoubleDOS menu will be displayed. The contents of the menu which is displayed will depend upon how many programs are currently loaded in memory, and whether or not they are SUSPENDed.

A complete description of all the menu functions can be found in chapter 4.

2.5 Switching Between Memory Sections

With DoubleDOS you have two separate DOS environments, each with its own DOS prompt, default drive, path, and so on. By using DoubleDOS you can start one program running and then switch to the other DOS prompt to do something else.

You can instantly switch from one memory section to the other with a two key combination (ALT/ESC), referred to in this manual as the EXCHANGE KEY. The default value for the exchange key may be altered if desired. See chapter 3 for detailed descriptions of this and other configuration options.

2.6 Printer Assignments

DoubleDOS supports both parallel and serial printers.

2.6.1 Parallel Printers

Parallel printer assignments that are in affect at the time Double-DOS is loaded are automatically assigned to both memory sections. Once DoubleDOS is up and running, you can reassign any printer to service either memory sections by using the program "PRINTER.COM" which is included with the original DoubleDOS disk. To automatically direct the "LPT1" output to "LPT2" or "LPT3", you just type in "printer 2" or "printer 3" respectively. This will not affect assignments in the other memory section.

2.6.2 Serial Printers

If a printer on the system is interfaced via a serial (communications) port MODE must not be run to redirect the printer output prior to installing DoubleDOS as this would cause all printing to be inhibited. Mode may be run after DoubleDOS has started to redirect a serial printer; but it (mode) may be run in one memory section only, unless you have two serial printers, in which case MODE may be used to assign a different printer to each memory section.

2.7 DOS Background Print

The DOS background PRINT function may be loaded before, or after DoubleDOS is loaded.

When PRINT is loaded before DoubleDOS is resident, both of the memory sections have access to a common print queue. Any items placed in the queue for printing by either memory section, will be printed in the order that they were placed in the queue or "FIFO" (First In, First Out), regardless of which section placed them there.

Whenever the resident portion of PRINT is loaded after Double-DOS is resident, the memory section from which it was loaded will have exclusive access to its print queue.

Since printer assignments of both memory sections can be independently manipulated (using MODE), you can run TWO background PRINTs, and at the same time, run two programs that print, for a total of four printers at once!

2.8 Print Screen

Through use of the (PrtSc) key, DoubleDOS provides the ability to print the screen image of the VISIBLE program. To print the VISIBLE program's screen image, depress either shift key and the (PrtSc) key simultaneously, just as you would if only DOS were loaded.

2.9 Communication Ports

If you use the communication facilities on your system please be sure you read the communications control section of chapter 3 (3.13). It has a detailed description of the possible conflicts that may arise when using these ports, and how to avoid them.

2.10 Display Modes

Some programs bypass the DOS operating system and write directly to your PC's display. This type of program may be displaying either text or graphics.

The modes tell the display whether it is displaying characters (in either 40 or 80 column format) or graphic images, and if they are graphics, what type. The most common types of graphic modes are high resolution, medium resolution, and black & white, however, depending upon the type of display adapter, there can be many different modes.

To overcome the problem of using this type of software with DoubleDOS, we provide a way to "manually" reset the display mode as you exit the DoubleDOS control menu. By doing this, you can insert the correct mode to restore your graphics display. When you exit from the menu, you can first specify the proper mode (which will probably have to be determined by trial and error, since changing the mode can be done over and over).

If the graphics display is the one to be displayed when you exit the DoubleDOS menu, then type the letter H, M, or B before typing the ENTER that will cause you to leave the menu. This resets the display mode and thus will properly restore your graphics display.

The special letters to type are "H" for high resolution graphics, "M" for medium resolution graphics, and "B" for medium resolution black and white.

NOTES

CHAPTER 3

3.0 DDCONFIG.SYS Options for DoubleDOS (DoubleDOS Initialization Options)

Forthwith are the descriptions for those options which control the various aspects of the DoubleDOS multi-tasking software. Overall these options define the manner in which DoubleDOS will be configured each time it is started.

All of the options to configure DoubleDOS are contained in a text file that is on the original DoubleDOS disk. The file is named DDCONFIG.SYS and is shipped with some options "ACTIVE" while others are "INACTIVE". The inactive options are identified by an asterisk (*) as the first character of the line. In general, options that are shipped as ACTIVE establish the base that allows DoubleDOS to start on most systems while the INACTIVE options allow you to customize DoubleDOS to best serve a particular application. Any of the options may be altered at any time to meet your specific system needs.

The DDCONFIG.SYS text file is automatically transferred to the working copy of DoubleDOS by the install procedure.

3.1 Modifying "ddconfig.sys"

The DDCONFIG.SYS file is in "ASCII" format. It can be modified with EDLIN, COPY CON, any text editor, or by most word processors. This file may be modified on the original DoubleDOS disk BEFORE doing the install, or you may modify the file on the working copy of DoubleDOS at any time AFTER doing an install. Modifications made on a working copy of DoubleDOS, while DoubleDOS is active, will not take effect until the next time DoubleDOS is started.

To re-specify an active option, find the option in the DDCONFIG.SYS file and replace the existing parameter with the one of your choice.

To activate an inactive option, find the option in the DDCONFIG.SYS file and delete the "*" at the start of the line and then add an appropriate parameter of your choice.

3.2 Memory Partition Size

This option is inactive on the original DoubleDOS disk. With the option inactive the load procedure for DoubleDOS is interrupted and a prompt appears on the display asking for a manual assignment of the partition sizes. Entering the assignments then allows the load procedure to complete.

Activating this option will allow the user to avoid the load interrupt by pre-defining a value that will be used to automatically establish the partition sizes during the load procedure. This value can be assigned for either the TOP MEMORY SECTION or for the BOTTOM MEMORY SECTION, but not for both. The value that is specified by the parameter will be applied to the designated partition. The remaining memory will be applied to the other partition.

The amount of memory that will be divided between the partitions is all the memory that is left after DoubleDOS and any special drivers, or other resident software have been loaded.

The TOP SIZE and BOTTOM SIZE options are intended to be mutually exclusive. If both are specified, the BOTTOM SIZE parameter will be used.

You may use the parameter "half" for either the TOP or the BOTTOM SIZE specification to have the available memory divided equally between the partitions

<div align="center">

TOP SIZE = half

or

BOTTOM SIZE = half

</div>

or you may use a numerical parameter to specify the exact amount of memory, in increments of 1K - 1,024 bytes, to be assigned to a specified partition while the remainder will be assigned to the other partition. The minimum partition size is 48K with DOS 2.X, or 52K with DOS 3.X.

<div align="center">

TOP SIZE = 48 (minimum)

or

BOTTOM SIZE = 321

</div>

3.3 Automatic Startup

Both of the automatic startup options are inactive on the original DoubleDOS disk. When activated, the options allow for the automatic execution of commands, a program, or a batch file, in their designated partition. There is an option for the TOP PROGRAM and for the BOTTOM PROGRAM, and both may be active at the same time. Any programs or commands are started as a part of, and at the end of the DoubleDOS startup procedure.

3.3.1 Automatic Program Loading

As an example of program loading, we will assume that your favorite program is named FPG.EXE and that your other favorite program is named OFP.COM. We will further assume that both of these programs reside on the default disk and that you want these programs started in the TOP and BOTTOM memory sections when DoubleDOS loads. To accomplish this the "ddconfig.sys" file would contain the following:

> TOP PROGRAM = FPG
> BOTTOM PROGRAM = OFP

As an alternative to the above example, one could start BATch files that contain several programs or commands. See the DOS manual for an explanation of "batch" files.

For this example let's assume that there are two BATch files on the default disk. The files are named ONE.BAT and TWO.BAT. ONE.BAT will start in the TOP MEMORY SECTION and TWO.BAT will start in the BOTTOM MEMORY SECTION.

In addition to any statements to control other options, the "ddconfig.sys" file would contain this list of statements:

> TOP PROGRAM = ONE
> BOTTOM PROGRAM = TWO

3.3.2 Automatic Command Execution

A single command, or multiple commands can be entered for automatic execution. To enter multiple commands just specify each command on a separate line. A maximum of 128 characters, including the carriage returns, can be entered for automatic pro-

cessing. The character count does not include the TOP PROGRAM =, or BOTTOM PROGRAM =, portion of the statements.

To illustrate automatic command execution we'll assume that a program named MYPGM.BAS exists on the default drive. It is in the directory named MINE, you must switch to this directory to load this program, and the program is to be loaded in the TOP memory section whenever DoubleDOS is started.

In addition to any statements to control other options, the "ddconfig.sys" file would contain this list of statements:

> TOP PROGRAM = CD/MINE
> TOP PROGRAM = BASICA
> TOP PROGRAM = LOAD" MYPGM
> TOP PROGRAM = RUN

3.4 Menu Control

There are certain features of DoubleDOS that can only be accessed from a "menu", or listing of commands. Three choices allowed by DoubleDOS that permit a user to choose the format to be used in the presentation of the menu. The three valid parameters for this option are:

> MENU = LONG full screen plus status (default)
>
> MENU = SHORT single line format; no text
>
> MENU = LINExx same as SHORT, but on line xx

3.4.1 MENU = LONG

MENU = LONG is the default for this option. This parameter causes a full screen display of the DoubleDOS commands along with a short explanation of each command and status for each memory section.

3.4.2 MENU = SHORT

MENU = SHORT is the parameter that is used to cause an abbreviated form of the menu to appear on line 25 of the display. The status information is not displayed. Because the code to supply the status information and the text data associated with the LONG menu are eliminated when the SHORT parameter is used, there are 9K additional bytes of memory available to be allocated to the memory partitions.

3.4.3 MENU = LINExx

MENU = LINExx functions the same as the "MENU = SHORT" except that you can select the line of the display on which the abbreviated menu will appear. Just as with "SHORT" an additional 9K bytes of memory is available.

3.5 Command Keys

The features of DoubleDOS are accessed using commands that are initiated from the keyboard. These commands are invoked by entering a two key sequence. The first key is called the "HOT" key, and is common to all of the commands. The second key in the sequence defines a specific command.

The default values for the functions have been chosen to provide the broadest possible compatibility with known applications software. However, in selecting the default values for the command keys it was impossible to determine if they would remain compatible with existing applications or if they would suit each new application that may arise. Therefore, the value for each command key may be selected by the user so that these keys may be customized to suit one's personal preference or when necessary, to resolve a conflict with another application package.

The parameter for the "HOT KEY" statement must be one of the names from the following list:

> HOT KEY = ALT (default)
>
> HOT KEY = CTRL
>
> HOT KEY = BREAK
>
> HOT KEY = LSHIFT
>
> HOT KEY = RSHIFT

HOT KEY = NUL is used to provide single key operation for highly specialized applications.

WARNING:

Using this parameter is discouraged as CONFLICTS ARE HIGHLY PROBABLE.

The second key in the sequence may be any other key on the keyboard. It is designated by the keyboard scan code. These keys are specified individually.

MENU KEY = 83   invokes the DoubleDOS control menu -- default 83 = (DEL)

DDCONFIG.SYS Options for DoubleDOS

EXCHANGE KEY = 1   to exchange the two tasks on the screen and keyboard -- default = 1 (ESC)

CANCEL KEY = 43   clears the contents of the DoubleDOS printer buffer -- default = 43 (\)

SUSPEND KEY = 58   suspends the INVISIBLE section, or un-suspend -- default= 58 (Caps Lock)

CLEAR KEY = 14   clears the contents of the keyboard buffer for the VISIBLE program default = 14 (BACKSPACE)

If for any reason the default values listed above are unacceptable, use the table on the next page to select an alternate value for the second key in the sequence.

3.6 Key Assignment Tables

The tables show the scan code value assigned to each key on the keyboard.

3.6.1 Typewriter Key Assignments

THE TYPEWRITER KEYS

```
     !   @   #   $   %   ^   &   *   (   )   _   +
Esc  1   2   3   4   5   6   7   8   9   0   —   =   ←
( 1) ( 2) ( 3) ( 4) ( 5) ( 6) ( 7) ( 8) ( 9) (10) (11) (12) (13) (14)


 ⇆   Q   W   E   R   T   Y   U   I   O   P   {   }   ↵
                                         [   ]
(15) (16) (17) (18) (19) (20) (21) (22) (23) (24) (25) (26) (27) (28)


Ctrl A   S   D   F   G   H   J   K   L   :   "   ~
                                         ;   '   `
(29) (30) (31) (32) (33) (34) (35) (36) (37) (38) (39) (40) (41)


 ↑   \   Z   X   C   V   B   N   M   <   >   ?
                                     ,   .   /   ↑   Prtsc
(42) (43) (44) (45) (46) (47) (48) (49) (50) (51) (52) (53) (54) (55)


        Alt              Space Bar            Caps Lock
        (56)               (57)                 (58)
```

3.6.2 Function Keys And Numeric Keypad Assignments

THE FUNCTION KEYS THE NUMERIC KEYPAD

FUNCTION KEYS			NUMERIC KEYPAD		
F1 (59)	F2 (60)		Num Lock (69)	Scroll Lock (70)	
F3 (61)	F4 (62)		7 Home (71)	8 ↑ (72)	9 PgUp (73)	- (74)
F5 (63)	F6 (64)		4 ← (75)	5 (76)	6 → (77)	
F7 (65)	F8 (66)		1 End (79)	2 ↓ (80)	3 PgDn (81)	+ (78)
F9 (67)	F10 (68)			0 Ins (82)	. Del (83)	

3.7 Display Control

The display control options provide the initialization and operational information to the video control section of DoubleDOS. Any non-conflicting options may be combined to achieve the desired results. Thus multiple "DISPLAY=" statements may be present in the "ddconfig.sys" file.

3.7.1 DISPLAY = DEFAULT

Starts DoubleDOS on display that is indicated by the current MODE setting, and configures only for that display.

3.7.2 DISPLAY = MONO

Sets a 4K INVISIBLE buffer for a screen address beginning at B000.

3.7.3 DISPLAY = COLOR

Sets a 16K INVISIBLE buffer for a screen address beginning at B800.

3.7.4 DISPLAY = BOTH

No buffer is reserved for the INVISIBLE display. Two display adapters and two displays are required on system. The display that is active at the time DoubleDOS starts is assigned to the TOP memory section and the other display is assigned to the BOTTOM memory section.

3.7.5 DISPLAY = TWO

This option allows you to use two displays in various ways. The option sets a 16K invisible buffer, for use by either display, and starts with the top memory section on the currently selected display, and the BOTTOM memory section INVISIBLE.

When there are no programs running, this option causes a selection to appear on the DoubleDOS menu. The selection provides access to the DoubleDOS display configuration menu to allow reassignment of the displays.

3.7.6 DISPLAY = TEXT

Reserves 4K for an INVISIBLE display buffer, even on systems with graphics adapters. Thus, graphics can not be made INVISIBLE and successfully recalled with this option.

3.7.7 DISPLAY = 4-32K

Overrides the size of the INVISIBLE display buffer for display cards with higher density displays or multiple pages.

3.7.8 DISPLAY = FAST

Eliminates DoubleDOS waiting for a vertical retrace to display information. For use with display cards that do not require this extra delay to increase the speed of the displays.

3.8 Printer Control

The printer control options provide the ability to have fast buffered printing for a parallel printer.

The PRINT DRIVER option is provided to allow a user to specify whether or not a print buffer will be used, and if one is to be used, whether it will be interrupt driven, or clock driven. The PRINT DRIVER option works in conjunction with the PRINT BUFFER option.

The DoubleDOS printer buffer is available for use by a parallel printer attached as LPT1. This buffer is created in the system's memory and may be from 1K to 64K in size.

Because the data for most printed output contains many spaces for formatting, the buffer provides automatic space compression to increase its storage capacity.

When a print buffer is used, it may be driven either by hardware interrupts, the fastest method, or by the system's clock. The system clock option is available to accommodate the printer adapters, AST for example, that do not support interrupt driven printer output, thus the DoubleDOS print buffer must be driven by the system clock.

3.8.1 PRINT DRIVER = INTERRUPT

With this parameter the printer buffer is installed and interrupt driven printing is used. When this parameter is used in conjunction with the PRINT BUFFER = xx option, it results in the fastest, most efficient printing possible on a PC.

See chapter 5 for the specifications for interrupt driven printing.

3.8.2 PRINT DRIVER = CLOCK

With this parameter the buffer as defined by the PRINT BUFFER = xx is installed, and the system clock is used to initiate printing. It allows for fast printing on systems that have printer ports that do not have interrupt driven print support or for those which have other hardware which uses the printer interrupt line (IRQ7).

See chapter 5 for the specifications for the DIRECT parameter.

3.8.3 PRINT DRIVER = DIRECT

With this parameter, no printer buffer is installed. It is to be used when buffered printing on LPT1 is not wanted, or when LPT1 is not used.

With this parameter specified, the PRINT BUFFER statement is ignored and no memory is allocated to the buffer.

See chapter 5 for the specifications for the DIRECT parameter.

3.8.4 PRINT DRIVER = BIOS

No printer buffer is installed, the ROM BIOS printer interface is used.

With this parameter specified, the PRINT BUFFER statement is ignored and no memory is allocated to the buffer.

See chapter 5 for the specifications for the BIOS parameter.

3.9 Print Buffer

The PRINT BUFFER option specifies the size of the print buffer when the buffer is used. This print buffer is used when the print driver option is specified at either "PRINT DRIVER = INTERRUPT" or "PRINT DRIVER = CLOCK".

The original DoubleDOS disk is set to a 1 K buffer, the maximum is a 64K buffer.

PRINT BUFFER = 1-64

See chapter 6 for the detailed specifications for this parameter.

3.10 Port Address Override For Non IBM Systems

DoubleDOS permits the user to override the default port addresses for any printers that are attached to the system. The starting port address may be assigned, up to a total of three parallel printers. This option is provided for those non-IBM systems that have different port addresses.

LPT1 = 3C0   Can be any valid hex value for starting
LPT2 = xxx   port address
LPT3 = xxx

3.11 Time Share Control

The DoubleDOS user may select the values for processor time allocation. The default is to favor the (VISIBLE) or foreground task by a ratio of 2:1 over the (INVISIBLE) or background task. Priorities may be set to favor either task in the same 2:1 fashion, or to provide equal time.

> PRIORITY = VISIBLE (default)
>
> PRIORITY = INVISIBLE
>
> PRIORITY = EQUAL
>
> PRIORITY = TOP
>
> PRIORITY = BOTTOM

3.12 Screen Feature Controls

The DoubleDOS user may specify that the display screen is to be dimmed if there is no keyboard or display activity within a specified number of minutes. This may extend the display's phosphor life. If a time value for the option is not specified, the feature is not activated in DoubleDOS.

> SCREENSAVE = x   Time in minutes before dimming
>   the screen.

Once the screen has been dimmed it can be restored by any keystroke. Each keystroke, regardless of whether the screen has been dimmed or not, will reset the countdown timer. Thus the timer is always working from the last keystroke performed.

3.13 Communications Control

The communication applications will run equally well in either the TOP or BOTTOM memory sections, or both. We ship the original DoubleDOS disk with both the "COM1" and "COM2" statements inactive. In this state, either memory section has unlimited access to the communication ports, therefore a conflict can arise that has nothing to do with either the communications applications or with DoubleDOS itself.

The conflict arises because many of the compilers and interpreted languages were developed before multi-tasking software was even thought of for a PC. As a feature (?) these compilers and languages arbitrarily reset both the "COM1" and "COM2" ports regardless of whether the ports exist or whether it is a communications application. Of course this is not a problem unless one wishes to multi-task, but to us this type of program is a "bad guy".

THE PROBLEM

If the communications ports are left unassigned either memory section has unlimited access to them. Therefore if a communications application is started first, in either of the memory sections, and is then left running while a "bad guy" type program is started in the other memory section, the "bad guy" will reset the communications application.

Worse yet is the fact that many users do not know, and have no need to know what language a program is written in. If the start sequence is varied or some program is used on an occasional basis, a problem could appear to be highly intermittent.

Now that you know about this situation you may assign the "COM" ports in any manner that you wish.

The communications control options provide the ability to assign the use of the system's communications resources exclusively to one of the memory partitions or to divide them amoung the partitions or to leave them unassigned so that both (RS-232) "COM" ports are available to either partition (the default).

```
COM1 = TOP  or BOTTOM
COM2 = TOP  or BOTTOM
```

CHAPTER 4

4.0 The DoubleDOS Control Menu

DoubleDOS uses the two key combination of (Alt/Del) to call and display its control menu. The DoubleDOS menu can be called any time after DoubleDOS has been started. The menu is used to review the status of any current processing or to change the assignment of various system resources, such as display units and the keyboard. When the DoubleDOS control menu is activated, all processing for the VISIBLE program is temporarily interrupted. The program resumes operation after you exit the menu.

The menu can be either a full screen display or a one line display. The menu's format is under control of the "ddconfig.sys" file (see chapter 3). All figures in this chapter are for the "MENU = LONG" (full screen display) configuration option.

When "MENU = SHORT" is used, the same menu options are available but there are no on-screen explanations for them. There is no status display when the "SHORT" format is used.

4.1 Areas Of The Menu (full screen)

The top two lines of the DoubleDOS menu explain how to select an option. Below this, in a block on the left side of the display, is a list of the options that are available for selection. Within the block a video "hi-lite" bar covers an option. DoubleDOS will always position the "hi-lite" bar over the first option whenever the menu is displayed. A complete description of all the menu options can be found later in this chapter.

At the bottom of the screen, below the options section, is an area used to show additional descriptive information about the option that is covered by the video "hi-lite" bar. This area is also hi-lited.

The three boxes on the right side of the display contain the status information.

The DoubleDOS menu when no programs are running.*

```
┌─────────────────────────────────────────────────────────┐
│  ┌───────────────────────────────────────────────────┐  │
│  │ Pick from the list below. Move the hi-lite bar to │  │
│  │ cover your choice using the arrow keys or by      │  │
│  │ typing the number. Type the return key to complete│  │
│  ├──────────────────────────────────┬────────────────┤  │
│  │                                  │ D o u b l e DOS │  │
│  │ 1. Exchange the VISIBLE and the  │ Status Info     │  │
│  │    INVISIBLE memory sections.    │ --Date-- --Time-│  │
│  │    (TOP AND BOTTOM).             ├────────────────┤  │
│  │                                  │                │  │
│  │ 2. Adjust the amount of memory   │    VISIBLE     │  │
│  │    assigned to the TOP section.  │ No program     │  │
│  │    BOTTOM is assigned remainder. │ is active in   │  │
│  │                                  │ the TOP memory │  │
│  │ 3. Boot the system. Reload DOS   │ section (128K).│  │
│  │    or another operating system.  ├────────────────┤  │
│  │    DoubleDOS will not be active  │    INVISIBLE   │  │
│  │    or present.                   │ No program     │  │
│  │ 4. Change your configuration     │ is active in   │  │
│  │    setup: the assignments for    │ the BOTTOM mem │  │
│  │    displays.                     │ section (192K) │  │
│  │ 5. Exit from the DoubleDOS       │                │  │
│  │    Control Menu.                 │                │  │
│  ├──────────────────────────────────┴────────────────┤  │
│  │ These two lines are used for additional description│  │
│  │ of the selection above which is covered by the hi- │  │
│  │ lite bar. These lines are also hi-lited.           │  │
│  │ ═══DoubleDOS 2.0A copyright by SoftLogic Solutions,│  │
│  │    Inc.═══                                         │  │
│  └───────────────────────────────────────────────────┘  │
└─────────────────────────────────────────────────────────┘
```

* The option to change the configuration set-up will only appear if the system has two display adapters, and only if the "DISPLAY=TWO" parameter is used in the "ddconfig.sys" file.

4.2 The Status Information

The status section on the right side of the screen has three boxes. The topmost box has the time and date. The other two boxes contain the current status for the memory sections as well as information about the distribution of the system's resources.

The top box displays the date and time, based on data from the system clock that was stored when the system was powered on. The date and time may be changed with the DOS commands DATE and TIME. Refer to the DOS operating manual for additional information.

The middle box of the status area has information that pertains to the TOP MEMORY SECTION while the bottom box has the data for the BOTTOM MEMORY SECTION.

DoubleDOS uses the two boxes to show if their assigned memory section is running the VISIBLE or INVISIBLE program, or no program at all and whether the programs are ACTIVE or SUSPENDed. The program name which appears in the status box may be the actual program name, or the name of the file or program overlay that was last used by the section. Also the amount of main memory assigned to that section is shown in kilobytes using "K" notation; 1K = 1024 bytes.

Actions that affect the display are: loading programs, running programs, SUSPENDing an INVISIBLE program, and updating the time and/or date .

The time display changes as it occurs and the date will change at midnight. The status information for the memory sections doesn't change until after you leave the DoubleDOS control menu by making one of the selections.

The Status Information


```
                              DoubleDOS
                           Status Information
                           --Date--    --Time--

                              VISIBLE
                           No program
                           is active in
                           the TOP memory
                           section (128K).

                              INVISIBLE
                           No program
                           is active in
                           the BOTTOM memory
                           section (128K)
```

DoubleDOS 2.0A copyright by SoftLogic Solutions, Inc.

4.3 How To Make Selections From The Menu

Items available for selection on the DoubleDOS menu are shown in the options section. This section is the block on the left side of the display, or when the "SHORT" format is used, it is a single line on the screen.

The items available for selection are displayed with a number preceding each of them. One of these items will be covered by a hi-lite bar. When the menu is invoked, the bar covers the first option. It may be moved with either the up and down arrow keys, or by typing in the number for the option to be selected. Typing the enter key will cause DoubleDOS to perform the option covered by the hi-lite bar.

DoubleDOS control menu

```
Pick from the list below. Move the hi-lite bar to cover your choice using the
arrow keys or by typing the number. Type the return key to complete.

1. Exchange the VISIBLE and the INVISIBLE       DoubleDOS
   memory sections. (TOP AND BOTTOM).        Status Information
                                             --Date--     --Time--

2. Adjust the amount of memory assigned to
   the TOP section. BOTTOM is assigned            VISIBLE
   remainder.                                  No program
                                               is active in
                                               the TOP memory
3. Boot the system. Reload DOS or another      section (128K).
   operating system. DoubleDOS will not be
   active or present.

4. Change your configuration setup: the assign-    INVISIBLE
   ments for displays.                          No program
                                                is active in
5. Exit from the DoubleDOS Control Menu.        the BOTTOM memory
                                                section (192K)

These two lines are used for additional description of the selection above
which is covered by the hi-lite bar. These lines are also hi-lited.
              DoubleDOS 2.0A copyright by SoftLogic Solutions, Inc.
```

4.4 Detailed Descriptions Of The DoubleDOS Menu Options

These menu options are valid for the "LONG" menu format. The options listed depend on the number of programs running and the parameter used for "DISPLAY =" option in "ddconfig.sys". In any case the option choices are the same with either menu format.

NOTE:

Prior to activating the menu, if there is no program running, the size for the memory section is displayed above the DOS command prompt A> or C>. This is the normal state both when you start DoubleDOS, and when you exit from a program.

4.4.1 Exchange The Memory Sections

This option is shown only when there are no programs running in either section. Use it to select the memory section that will be used to start the VISIBLE program.

A program can be started only as the VISIBLE program. Double-DOS puts the first program started in the TOP MEMORY SECTION, unless this option is used to select the BOTTOM MEMORY SECTION.

NOTE:

The exchange key performs this same function, but no menu is displayed.

Assuming that the TOP MEMORY SECTION was the VISIBLE one at the time this option was executed, the following would be the resulting display:

BOTTOM MEMORY SECTION (48K)
A>

This display indicates that the next program to start will reside in the BOTTOM MEMORY SECTION. The number next to the letter K indicates the amount of memory assigned to the BOTTOM MEMORY SECTION.

4.4.2 Make The VISIBLE Program INVISIBLE

This option is displayed when there is only one program running

and it is the VISIBLE program when the control menu is invoked. The option allows the VISIBLE program that was running to become the INVISIBLE program. Execution of this option will clear the menu from the screen and display the DOS prompt A>, or C>. At this point DoubleDOS will allow you to start a VISIBLE program.

For systems with two video displays, only the keyboard is actually exchanged when one display is assigned to each MEMORY SECTION. In this case the assignment of the display will follow its MEMORY SECTION as it changes from VISIBLE to INVISIBLE, and back.

NOTE:

The exchange key performs this same function but no menu is displayed.

4.4.3 Make The INVISIBLE Program VISIBLE

This option is displayed when there is only one program running and the program is INVISIBLE when the control menu is invoked. It allows the INVISIBLE program to become the VISIBLE program. For systems with one display, DoubleDOS returns the screen display to the program that was running invisibly.

For systems with two video displays, only the keyboard is actually exchanged when one display is assigned to each MEMORY SECTION. In this case the assignment of the display will follow its MEMORY SECTION as it changes from INVISIBLE to VISIBLE, and back.

NOTE:

The exchange key performs this same function but no menu is displayed.

4.4.4 Exchange The VISIBLE Program With The INVISIBLE

This option is shown only when there are two programs running. With this option you can switch the keyboard and the display (if there is only one being used) between the two programs which are running. Use this option to review the status of the INVISIBLE program. It can also be used to change the display and keyboard

to provide additional input to the INVISIBLE program. The option could then be used to return the program to its INVISIBLE status.

NOTE:

The exchange key performs this same function but no menu is displayed.

4.4.5 Kill A Program

This option allows you to stop a program. This action has almost the same effect on the running program as the (Alt/Ctrl/Del) command does when running DOS. The only difference is that no system reset is performed.

Processing is terminated for the program, and no disk information is updated. DoubleDOS will display a warning message to remind you of this each time you select this KILL option. Either program may be interrupted without affecting the other.

If you choose the option to KILL The VISIBLE Program, the program running in the VISIBLE section will terminate. Any program running in the INVISIBLE section will continue unaffected. The DOS/DoubleDOS prompt appears showing the current memory size assigned to the VISIBLE program.

If you choose the option to KILL The INVISIBLE Program, the INVISIBLE program is terminated. If it is running, the VISIBLE program continues unaffected, with its screen display restored.

NOTE:

The KILL function stops only the current program. If the program being stopped was executed as part of a BATch, the remainder of the BATch will continue to process.

4.4.6 SUSPEND The INVISIBLE Program

This option provides a temporary stop to the processing of the INVISIBLE program. The program remains "SUSPENDed" until you want to resume the processing. This is done by invoking the DoubleDOS menu and executing the appropriate option.

Only the INVISIBLE program can be SUSPENDed. This tool is used when you have a need to halt the INVISIBLE program for some reason such as changing a disk to load a file for the VISIBLE

program.

When finished, use the DoubleDOS menu to resume the processing of the INVISIBLE program, exactly at the point where it left off.

NOTE:

The SUSPEND KEY performs this same function but no menu is displayed. The (Ctrl/Num Lock) DOS function will perform this same action on the VISIBLE program.

4.4.7 Resume Processing The SUSPENDed Program

This option allows you to resume the processing for an INVISIBLE program that was previously SUSPENDed and allow it to continue its processing from exactly the point where it was SUSPENDed. The VISIBLE program, if one was running, also resumes.

WARNING: BE SURE TO REPLACE ALL DISKS BEING USED BY THE SUSPENDed PROGRAM BEFORE YOU RESUME.

NOTE:

The SUSPEND KEY performs this same function but no menu is displayed. The (Ctrl/Num Lock) DOS function will perform this same action on the VISIBLE program.

4.4.8 Adjust The Amount Of Memory

This option is shown only when there are no programs running. It allows you to re-assign the memory partition sizes. Any new memory assignment that causes either memory section to be less than the minmum partition size will be rejected.

Note: Using this option will cause any "resident" software (such as PROKEY or SIDEKICK) which was loaded after DoubleDOS to be removed from both memory sections, even if you make the same memory divisions as before.

4.4.9 Boot The System

This option allows you to stop DoubleDOS and reload the operating system. This can be used to reload DOS without DoubleDOS

or to load another operating system, or another program that does not use DOS, like ZORK or FLIGHT SIMULATOR.

Executing this option has the same effect as typing the boot combination of (Ctrl/Alt/Del) when running DOS without DoubleDOS. DoubleDOS displays a message "OK to continue ?" when you have selected this option. This allows you to be absolutely sure and you must answer, "Y" for yes, or "N" for no, to tell DoubleDOS whether to continue the execution of this option.

Any and all processing for both the INVISIBLE and the VISIBLE programs is completely terminated with this option. This is also the procedure used if you want to run without DoubleDOS.

4.4.10 Exit The DoubleDOS Control Menu

This selection can be used after invoking the DoubleDOS menu to review the status information, or if the menu is invoked inadvertently.

4.4.11 Configuration Options

This option is only shown if the "DISPLAY = TWO" is used in the "ddconfig.sys" file and is intended for systems that use more than one display. Executing this option will allow you to re-assign the displays.

4.5 DoubleDOS Screen Displays

This sample shows the menu display for no programs running.

Pick from the list below. Move the hi-lite bar to cover your choice using the arrow keys or by typing the number. Type the return key to complete.	
1. Exchange the VISIBLE and the INVISIBLE memory sections. (TOP AND BOTTOM).	D o u b l e D O S Status Information --Date-- --Time--
2. Adjust the amount of memory assigned to the TOP section. BOTTOM is assigned remainder.	VISIBLE No program is active in the TOP memory section (128K).
3. Boot the system. Reload DOS or another operating system. DoubleDOS will not be active or present.	
4. Change your configuration setup: the assignments for displays.	INVISIBLE No program is active in the BOTTOM memory section (192K)
5. Exit from the DoubleDOS Control Menu.	

These two lines are used for additional description of the selection above which is covered by the hi-lite bar. These lines are also hi-lited.

=======DoubleDOS 2.0A copyright by SoftLogic Solutions, Inc.=======

This sample shows the menu display for one ACTIVE program, the VISIBLE one. It is running in the BOTTOM MEMORY SECTION.

Pick from the list below. Move the hi-lite bar to cover your choice using the arrow keys or by typing the number. Type the return key to complete.	
1. Make the VISIBLE program the INVISIBLE program, and then resume processing.	D o u b l e D O S Status Information --Date-- --Time--
2. KILL the VISIBLE program. No programs will be running.	INVISIBLE No program is active in the TOP memory section (128K)
3. Boot the system. Reload DOS or another operating system. DoubleDOS will not be active or present.	
4. Exit from the DoubleDOS Control Menu.	The VISIBLE program is BASIC123.EXE and is active in the BOTTOM memory section (48K).

These two lines are used for additional description of the selection above which is covered by the hi-lite bar. These lines are also hi-lited.

========DoubleDOS 2.0A copyright by SoftLogic Solutions, Inc.========

The DoubleDOS Control Menu

This sample shows the menu display for two ACTIVE programs.

```
┌─────────────────────────────────────────────────────────┐
│ Pick from the list below. Move the hi-lite bar to cover  │
│ your choice using the arrow keys or by typing the number.│
│ Type the return key to complete.                         │
├───────────────────────────────────┬─────────────────────┤
│                                   │    D o u b l e D O S │
│ 1. Exchange the VISIBLE program   │   Status Information │
│    with the INVISIBLE program;    │  --Date--   --Time-- │
│    then resume both processing.   ├─────────────────────┤
│ 2. Kill the VISIBLE program. The  │  The VISIBLE program │
│    INVISIBLE program will resume. │  is BASIC123.EXE and │
│ 3. Kill the INVISIBLE program. The│  is active in        │
│    VISIBLE program will resume.   │  the TOP memory      │
│ 4. Suspend the INVISIBLE program  │  section (128K).     │
│    temporarily, to resume later.  │                      │
│ 5. Boot the system. Reload DOS or ├─────────────────────┤
│    another operating system.      │ The INVISIBLE program│
│    DoubleDOS will not be active or│ is BASIC123.EXE and  │
│    present.                       │ is active in         │
│ 6. Exit from the DoubleDOS Control│ the BOTTOM memory    │
│    Menu.                          │ section (48K)        │
├───────────────────────────────────┴─────────────────────┤
│ These two lines are used for additional description of   │
│ the selection above which is covered by the hi-lite bar. │
│ These lines are also hi-lited.                           │
│ ──────DoubleDOS 2.0A copyright by SoftLogic Solutions,Inc.│
└─────────────────────────────────────────────────────────┘
```

This sample shows the menu display for two programs running, with one SUSPENDed.

```
┌─────────────────────────────────────────────────────────┐
│ Pick from the list below. Move the hi-lite bar to cover  │
│ your choice using the number. Type the return key to     │
│ complete.                                                │
├───────────────────────────────────┬─────────────────────┤
│ 1. Resume processing with the     │    D o u b l e D O S │
│    INVISIBLE program, which is now │   Status Information │
│    suspended.                     │  --Date--   --Time-- │
│                                   ├─────────────────────┤
│ 2. Kill the VISIBLE program. The  │  The VISIBLE program │
│    INVISIBLE program will remain  │  is BASIC123.EXE and │
│    suspended.                     │  is active in the TOP│
│                                   │  memory section      │
│ 3. Kill the INVISIBLE program. The│  (128K).             │
│    VISIBLE program will resume.   ├─────────────────────┤
│ 4. Boot the system. Reload DOS or │                      │
│    another operating system.      │ The INVISIBLE program│
│    DoubleDOS will not be active or│ is COMBATCH.EXE and  │
│    present.                       │ is SUSPENDed in the  │
│                                   │ BOTTOM memory        │
│ 5. Exit from the DoubleDOS Control│ section (48K).       │
│    Menu.                          │                      │
├───────────────────────────────────┴─────────────────────┤
│ These two lines are used for additional description of   │
│ the selection above which is covered by the hi-lite bar. │
│ These lines are also hi-lited.                           │
│ ──────DoubleDOS 2.0A copyright by SoftLogic Solutions,Inc.│
└─────────────────────────────────────────────────────────┘
```

This sample shows the menu display for one ACTIVE program, the INVISIBLE one.

```
+---------------------------------------------------------------+
| Pick from the list below. Move the hi-lite bar to cover your  |
| choice using the arrow keys or by typing the number. Type the |
| return key to complete.                                       |
+-------------------------------------------+-------------------+
| 1. Make the INVISIBLE program the VISIBLE | D o u b l e D O S |
|    program, and then resume processing.   | Status Information |
|                                           | --Date--  --Time-- |
|                                           |                    |
| 2. Kill the INVISIBLE program. No programs|      VISIBLE       |
|    will be running.                       | No program         |
|                                           | is active in       |
| 3. Suspend the INVISIBLE program          | the TOP memory     |
|    temporarily, to resume later.          | section (128K).    |
|                                           |                    |
| 4. Boot the system. Reload DOS or another |                    |
|    operating system. DoubleDOS will not be| The INVISIBLE      |
|    active or present.                     | program is         |
|                                           | COMBATCH.EXE and   |
|                                           | is active in the   |
| 5. Exit from the DoubleDOS Control Menu.  | BOTTOM memory      |
|                                           | section (48K).     |
+-------------------------------------------+-------------------+
| These two lines are used for additional description of the    |
| selection above which is covered by the hi-lite bar. These    |
| lines are also hi-lited.                                      |
|========DoubleDOS 2.0A copyright by SoftLogic Solutions, Inc.==|
+---------------------------------------------------------------+
```

This sample shows the menu display for one program running, a SUSPENDed, INVISIBLE program.

```
+---------------------------------------------------------------+
| Pick from the list below. Move the hi-lite bar to cover your  |
| choice using the arrow keys or by typing the number. Type the |
| return key to complete.                                       |
+-------------------------------------------+-------------------+
| 1. Resume processing with the INVISIBLE   | D o u b i e D O S |
|    program, which is now suspended.       | Status Information |
|                                           | --Date--  --Time-- |
|                                           |                    |
| 2. Kill the INVISIBLE program. No programs|      VISIBLE       |
|    will be running.                       | No program         |
|                                           | is active in       |
|                                           | the TOP memory     |
| 3. Boot the system. Reload DOS or another | section (128K).    |
|    operating system. DoubleDOS will not be|                    |
|    active or present.                     |                    |
|                                           | The INVISIBLE      |
|                                           | program is         |
|                                           | BASIC123.EXE and   |
| 4. Exit from the DoubleDOS Control Menu.  | is SUSPENDed in    |
|                                           | the BOTTOM memory  |
|                                           | section (48K).     |
+-------------------------------------------+-------------------+
| These two lines are used for additional description of the    |
| selection above which is covered by the hi-lite bar. These    |
| lines are also hi-lited.                                      |
|========DoubleDOS 2.0A copyright by SoftLogic Solutions, Inc.==|
+---------------------------------------------------------------+
```

The DoubleDOS Control Menu

This sample shows the menu display when you select the option
to change your configuration setup from the DoubleDOS con-
trol menu.

```
┌───────────────────────────────────────────────────────────────┐
│  ┌───────────────────────────────────────────────────────────┐ │
│  │ Pick from the list below. Move the hi-lite bar to cover    │ │
│  │ your choice using the arrow keys or by typing the number.  │ │
│  │ Type the return key to complete.                           │ │
│  ├──────────────────────────────────┬────────────────────────┤ │
│  │                                  │      D o u b l e D O S  │ │
│  │   Changing your Configuration /  │      Status Information │ │
│  │   Setup                          │    --Date--    --Time-- │ │
│  │                                  ├────────────────────────┤ │
│  │ 1. Use Mono. display for TOP     │                        │ │
│  │    memory section, and use color │        VISIBLE         │ │
│  │    display for BOTTOM memory     │     No program         │ │
│  │    section.                      │     is active in       │ │
│  │                                  │     the TOP memory     │ │
│  │ 2. Use Color Display for TOP     │     section (128K).    │ │
│  │    memory section, and use Mono. │                        │ │
│  │    Display for BOTTOM memory     │                        │ │
│  │    section.                      │                        │ │
│  │                                  ├────────────────────────┤ │
│  │ 3. Use both displays for the     │       INVISIBLE        │ │
│  │    VISIBLE memory section.       │     No program         │ │
│  │                                  │     is active in the   │ │
│  │ 4. Exit from this options menu   │     BOTTOM memory      │ │
│  │    and return to the main        │     section (48K).     │ │
│  │    DoubleDOS Control Menu.       │                        │ │
│  ├──────────────────────────────────┴────────────────────────┤ │
│  │ These two lines are used for additional description of the │ │
│  │ selection above which is covered by the hi-lite bar. These │ │
│  │ lines are also hi-lited.                                   │ │
│  │ ════════DoubleDOS 2.0A copyright by SoftLogic Solutions,   │ │
│  │ Inc.════════                                               │ │
│  └───────────────────────────────────────────────────────────┘ │
└───────────────────────────────────────────────────────────────┘
```

CHAPTER 5

5.0 Examples Of How To Use DoubleDOS

This chapter has three examples of actual applications that show the operation of DoubleDOS. To insure your full understanding of the functions used in the examples, please read chapters 1 thru 4 of this guide, before continuing.

The examples which follow show:

Running two programs using one display

Running two programs and the background DOS PRINT using one display

Running two programs using a system with two video adapters and two displays

For each of the examples, this guide will:

a. explain the application problem/situation, with assumptions

b. explain in general terms how to use DoubleDOS to solve the problem

c. and, finally detail each required step with a brief explanation.

5.1 How To Run Two Progams Using DoubleDOS

Let's assume you want to run the program which prints a letter to your customers. Since you have over four hundred letters to print, the system might be tied up for hours if it weren't for DoubleDOS. But with DoubleDOS, you are now going to be able to use your word processing package to create another letter, and then type a few memos, all while the letters to your customers continue to print.

Assumptions:
The system is a PC-XT with; one monochrome display, one printer, and 192K of memory. 64K of memory is required for the letter printing program, and another 64K is used by the word processing text editing program.

To solve this application problem, we will assume that the system has just been started and is running DoubleDOS (see chapter 1 for instructions). First, we will start the letter printing program named LETPRT that uses a file named CUSTOMER.A1 and then use DoubleDOS to make it the INVISIBLE program.

By making it INVISIBLE, it is detached from both the keyboard and the display, so that you are now free to continue using the system for something else, like this example, to start a word processor to do the other work.

1. The screen should have the message "DoubleDOS Top Memory Section (xxxK)" followed by the regular DOS prompt, such as A>.

2. We start the first program, by typing: "LETPRT CUSTOMER.A1" and assume that the printing starts.

3. Now it is time for DoubleDOS to go to work. Type the Alt/Del keys to invoke the DoubleDOS control menu. The screen is cleared, the printing stops, and the DoubleDOS menu is displayed.

4. Choose selection number one (1), to make the VISIBLE program become the INVISIBLE program. The screen is cleared, the printing resumes, and the DOS prompt A> returns. DoubleDOS has displayed the words "BOTTOM MEMORY SECTION (xxxK)".

5. Now you can start the word processing program. Type WORDPROC (or whatever you normally use to start your word processor) and you can begin working as though nothing else is going on, providing of course that you don't use a program that prints (since you only have one printer).

5.2 How To Run Two Programs While Using The DOS Background Print (PRINT.COM)

In this example, the DOS print function is used to dump several files while two other programs are running. One is a BATch process to update files and the other program is your word processor, which you are going to use to write a long letter.

Assumptions:
The system is a PC-XT with; one monochrome display, a printer, and 256K of memory. The programs in the .BAT file require less than 100K. The word processing program requires 100K. The DOS print function requires 3K.

To solve this application problem, we will assume that the system has just been started and is running DoubleDOS (see chapter 1 for instructions). First, we start the DOS background PRINT, and once it has started we will start the BATch process. We now use DoubleDOS to make it INVISIBLE.

By making it INVISIBLE, you have detached the programs from the keyboard and display so you are free to continue using the system for something else. In this case, you start the word processor to do some other work.

1. We start the DOS print function by typing "PRINT LISTFILE" and selecting a printer device. We then start the BATch processing by typing "CHNGFILE", the name of the ".BAT" file, and the processing of the file update begins.

2. Now we type the Alt/Del keys to invoke the DoubleDOS control menu. The printing stops, the BATch update process stops, and the DoubleDOS menu is displayed.

3. Choose selection number one (1), to make the VISIBLE program become the INVISIBLE program. The screen is cleared, the printer starts again, the BATch update program starts again, and the DOS prompt A> returns. You are now ready to start your third activity using DoubleDOS.

4. We start the word processing program by typing WDPR, our name for a word processor. You can now begin your work as though nothing else is going on.

5.3 How To Run Two Programs On A System With Two Video Adapters Using DoubleDOS

Let us say you want to run a program which processes a long time, asks some questions, then processes more, and so on. At the same time you want to use your word processing program to create a letter. Since the system has two video displays, you will be able to view the INVISIBLE program's displays as they occur, while you use the other display to write a letter with your word processor. This will allow you to see when the INVISIBLE program stops to wait for an operator response so that you can switch to that program to answer the question and then return to your letter writing.

Assumptions:
The system is a PC-XT with; one monochrome and one color graphics display, 256K of memory, and the programs each require approximately 80K. By using DISPLAY = VISIBLE in the "ddconfig.sys" file, the displays are assigned one each to the TOP and BOTTOM memory sections when DoubleDOS loads.

To solve this application problem, we will assume that the system has just been started and is running DoubleDOS (see chapter 1 for instructions). First, we will start the program that processes a while and then we'll use DoubleDOS to make it the INVISIBLE program. By making it INVISIBLE, you have detached the keyboard from the program and since you have two displays you can still see what the INVISIBLE program is doing at all times.

By using DoubleDOS to exchange the keyboard between the VISIBLE and INVISIBLE programs, you can alternately perform the required functions for the programs that are on the two displays.

NOTE:

In this example the EXCHANGE KEY would work well. As you toggle between the programs the menu display, which is not needed for this situation, would be by-passed.

1. Start the first program, by typing BIGBATCH (your usual instruction).

2. Now type the Alt/Del keys, to invoke the DoubleDOS control

menu. The first program's processing stops and the Double-DOS menu is displayed.

3. Choose selection number one (1), to make the VISIBLE program become the INVISIBLE program. The keyboard is now assigned to the other display and the first program's display is returned as processing resumes.

4. Start your word processing program by typing WDPR, our name for a word processor. Now you can begin your work, and at the same time watch the progress of the other program.

5. When the processing (INVISIBLE) program stops to ask the operator a question, you again type Alt/Del to exchange the VISIBLE and INVISIBLE programs, answer the prompts, then exchange the VISIBLE and INVISIBLE programs once again to continue with your letter.

NOTES

CHAPTER 6

6.0 DoubleDOS Specifications

DoubleDOS allows up to four printers, two communication ports, and four programs to run at one time. The third and fourth program can only be the DOS background print utility program (PRINT.COM), which is provided with DOS 2.X or 3.X. The first two programs however, may be any two applications or they could be two copies of the same program.

6.1 Minimum System Requirements

The following is the minimum system that is required to successfully load the DoubleDOS program:

　　　1 system unit with keyboard
　　　192K of memory*
　　　1 display
　　　1 floppy disk drive
　　　A DOS 2.X or 3.X operating system

* Although DoubleDOS will load successfully in a system that has only 192K of memory it is strongly recommended that your system have at least 256K of memory.

6.2 Disk Usage

Once it has been loaded into memory, DoubleDOS needs no disk space to operate. While operating it remains entirely resident in the system's memory (RAM). If the DoubleDOS program is started from floppy disk, that disk may be removed from the system once DoubleDOS is running.

DoubleDOS does require that all the disk files used by the two application programs, be present on a disk device.

6.3 Memory Specifications

To use DoubleDOS to run two programs simultaneously, we recommend that the system have at least 256K of RAM memory. DoubleDOS will load in systems with as little as 192K.

The DoubleDOS program requires approximately 20K to 40K of memory, depending upon the number and type of display(s) used, and upon the menu option that is selected. The table below can be used to help determine how much memory will be used by the DoubleDOS program for your particular setup.

When the optional DoubleDOS print buffer is activated, the amount of memory specified for the buffer must be added to the amounts mentioned above.

6.3.1 DoubleDOS memory requirement table

Note: The "save area" that is referred to in the table is only required for systems with one display. Its purpose is to retain and update the contents of the display for the INVISIBLE program. Systems having two displays can use the configuration option DISPLAY=VISIBLE. This means that both programs will always be visible and thus the memory for the "save area" is not required.

These memory requirements are in addition to the memory that is ordinarily required to operate the two application programs.

> The DoubleDOS program and the short menu option = 17K

> The DoubleDOS program with the long menu option = 26K

> If a monochrome display "save area" is needed add 4K

> If a graphics display "save area" is required add 16K

> If the print buffer is installed, add in its size

6.4 Application Software Specifications

DoubleDOS requires that any software used must also run under DOS. It must be able to be loaded by the DOS command processor, from a disk with DOS style directories, and when it finishes it must return control of the system to DOS.

The software applications being run are not required to use the facilities that are available through DOS, such as the DOS function calls, etc., but, the application software must not alter or displace any of the DOS program that is in main memory.

6.5 Direct Screen Writers

Application programs that bypass the DOS supplied video display output facility and instead write the data directly to the refresh memory are called "direct screen writers".

These programs can function correctly with DoubleDOS if they are always kept as the VISIBLE program. They can also run on a system that has a monochrome display adapter and a graphics display adapter installed, as long as both display units are present and the displays are assigned one each to the VISIBLE program and the INVISIBLE program.

On systems with only one display, or systems that have multiple displays but have both assigned to the VISIBLE program, a direct screen writer can cause a conflict if it is made the INVISIBLE program.

The conflict is that the display data for the INVISIBLE program cannot be trapped or stored by DoubleDOS. The data will, in fact, displace the contents of the screen which is being used by the VISIBLE program. This doesn't damage the system or the data in memory but it is very likely that the display will be difficult, if not impossible, to read.

To rectify this, the DoubleDOS disk comes equipped with special files to "patch" some popular software packages and thus enable them to be run as the INVISIBLE program with displays correctly routed to the virtual display. This compatibility change does not affect the operation of this software when it is not being run under DoubleDOS. Refer to chapter 7 for complete information.

6.6 DoubleDOS Enhanced Keyboard Buffer

DoubleDOS provides two 128 character keyboard type ahead buffers, one for each of the two programs it controls. The buffers replace the 15 character type ahead buffer provided by DOS. They can be used to hold a lengthy instruction, or a series of commands, or just to enhance the performance of your keyboard responses.

The feature also allows you to type up to 128 characters ahead to

respond to the prompts that will be issued by some program. The buffered keystrokes are then passed on to the application program as it becomes ready for them.

Data must be entered into the buffer while the program that will use it is the VISIBLE program, but once the data is entered, the program may be exchanged, and thus become the INVISIBLE program. Buffered keystrokes are retained to be passed to the INVISIBLE program as it requests additional keyboard input.

6.6.1 Resetting The Keyboard Buffer

The CLEAR key (Alt/Bksp), resets the keyboard buffer if there's a need to cancel any pending program input from the buffer. The reset will only function on the buffer for the VISIBLE program. Bksp is the (←) key at the top right side of the keyboard.

6.7 Video Display Specifications

With DoubleDOS you can use either the monochrome or the graphics display adapter, or both. On the system with only one display, DoubleDOS buffers an image of the display for the INVISIBLE program.

As the INVISIBLE program progresses, the buffered image is updated, instead of a video display. When the INVISIBLE program is changed to the VISIBLE one, its current screen display can be produced, reflecting any changes from the processing which occurred while it was INVISIBLE.

6.8 Printer Driver Specifications

The main purpose for the printer driver option is to provide a mechanism for high speed efficient printing on systems and applications that can utilize such a feature, but having the option available means that there must also be parameters to cover those systems that cannot use the feature. The INTERRUPT and CLOCK parameters are for the high speed applications while DIRECT and BIOS cover other types of applications.

Note: The print driver specifications pertain to the parallel printer only.

6.8.1 Print Driver = Interrupt

With this parameter the printer buffer is installed and interrupt driven printing is used. When this parameter is used in conjunction with the PRINT BUFFER = xxK option, it results in the fastest, most efficient printing possible on a PC.

Interrupt driven print works with the print buffer that is user specified to a size of 1K to 64K. The routine puts the characters to be printed into this buffer at speeds of up to 4500 char/sec. and then frees up the system until the printer requests the data. The print data is sent to the printer, when it is ready, at speeds up to 5000 char/sec. Again, the system is free to do other tasks while the data is actually being printed.

This results in the printer running at its maximum capacity while the system is free to do other work except for the very short intervals during which the data is being transferred from the Double-DOS print buffer to the printer's character buffer. Printer speeds of 2000 132 character lines per minute can be achieved with a fast printer.

The interrupt driven print uses the processors interrupt request line number 7 (IRQ7) and operates only with LPT1. LPT2 and LPT3 use a separate routine, the same one called if the DIRECT parameter is used for the PRINT DRIVER option.

6.8.1.1 Potential Conflicts With INTERRUPT Driver

There are certain conflicts that can make interrupt driven print

unusable. Since IRQ7 (vector OFh) is needed for the interrupt printer driver, any other hardware that uses this vector would preclude it being used for the print driver. Fortunately, as of this writing there are very few devices that use IRQ7.

A more common problem is that certain non-IBM computers and some non IBM parallel printer ports, such as the AST multifunction memory board, do not support interrupt driven print.

For the above cases PRINT DRIVER = CLOCK may provide an adequate solution.

6.8.2 Print Driver = Clock

With this parameter the buffer as defined by the PRINT BUFFER = xx is installed, and the system clock is used to initiate printing. It allows for fast printing on systems that have printer ports that do not have interrupt driven print support or for those which have other hardware which uses the printer interrupt line (IRQ7).

Clock driven print works with the print buffer that is user specified to a size of 1K to 64K. The routine places the characters to be printed into this buffer at speeds of up to 4500 char/sec. and then frees up the system until the printer requests the data.

Unlike interrupt driven print, the print data is sent to the printer of a timed basis rather than on a request basis. This results in printer speeds that are slightly faster than conventional printing but the system is left free to do other tasks while the data is actually being printed.

6.8.3 Print Driver = Direct

With this parameter the PRINT BUFFER = xx statement is ignored and no print buffer installed. Use this parameter when buffered printing on LPT1 is not wanted or if LPT1 is not used by a parallel printer.

The routine called by this parameter is also called to drive LPT2 and LPT3 when either INTERRUPT or CLOCK are the specified parameter. The routine provides an overlap of the printer "busy" time, in other words another task is allowed to run until the printer is ready for more data. This can be a considerable amount of time.

The actual print speed is equal to that of the original BIOS routine but some other job can be running at the same time and at apparent full speed.

6.8.4 Print Driver = BIOS

With this parameter the PRINT BUFFER = xx statement is ignored and no print buffer will be installed. Using this parameter causes the original ROM BIOS to be used to drive the printer and results in the least efficient form of printing. It is intended for use only if all else fails.

If you have your own print drivers for special printers or whatever, they can normally be installed after DoubleDOS is running and thus still allow you to use one of the more efficient print driver parameters.

6.9 Print Buffer Specifications

The PRINT BUFFER option specifies the size of the print buffer. The buffer will be used only when the print driver option is specified at "PRINT DRIVER = INTERRUPT" or "PRINT DRIVER = CLOCK". For the other print driver parameters, no print buffer is installed and therefore no memory is used, regardless of what amount is specified by the PRINT BUFFER statement.

A large print buffer can contain print data for several jobs, but the large print buffer will leave less memory for running the applications. Thus a range of buffer sizes has been provided to better accommodate the various system and application requirements.

The minimum size for the buffer is 1 K, the maximum size is 64 K. The buffer may be adjusted, in 1 K increments, to any size within the range of 1-64 K.

CHAPTER 7

7.0 Special DoubleDOS Operations

In this chapter, the special options that are available in DoubleDOS are described. Included is the DOS background print function named "PRINT.COM", the ability to use two or more printers, information on the DoubleDOS utility program named "SWITCH", information on using ANSI.SYS, options for Lotus 1-2-3 users, and information on patch files.

7.1 Using The DOS Print Function

Using the DOS background print program (PRINT.COM) with DoubleDOS will allow up to four different operations to run simultaneously. The time at which "PRINT.COM" gets loaded determines whether the resource is shared by the two memory sections, or whether it will become an independent function within each section.

When PRINT is loaded before DoubleDOS is resident, both memory sections have access to a common print queue. Items to be printed are placed in the queue in the order in which they are received from either memory section, and each item will then be printed in turn, on the same printer.

If PRINT is loaded after DoubleDOS is resident then the memory section that is used to load it has exclusive access to the print queue. This can be very useful if your system has two or more printers, since PRINT can be loaded in each memory section. This allows background print operations to be running concurrently in each memory section and thus the ability to drive two printers simultaneously.

7.2 Using Two Or More Printers

DoubleDOS supports the operation of up to four printers simultaneously. This is accomplished by loading PRINT into each memory section to perform a background print operation (see section 7.1), while at the same time running a program in each memory section that will drive a second printer for each of the sections.

The "MODE" command is used to address the printers, but the software used to drive a second printer must allow that printer to have its output controlled in this way. Certain programs only support output to LPT1, and thus do not work for this purpose while other programs must be "configured" before they can operate a different printer.

The communication ports are used when the output is for serial printers. This too is accomplished using the "MODE" command. The steps that follow outline a procedure that can drive four printers at once.

1. Boot your system, and then load DoubleDOS and in the TOP MEMORY SECTION, start listing a file, or list of files, with the program PRINT. Direct the output to LPT2.

2. Once printing has started, you can begin a second print using another program, such as your word processor, or accounting package. This output will automatically be sent to the parallel printer (LPT1:).

3. Switch to the BOTTOM MEMORY SECTION. The third printer to be started is a serial printer attached to COM2. Use the "MODE" command to set COM2 for the appropriate baud rate, etc. (for example: "MODE COM2:48,N,8,1,-").

4. Start printing another file, or list of files from the BOTTOM MEMORY SECTION by calling the program PRINT and specifying its output to go to "COM2".

5. The fourth printer can be started by using some software like a spreadsheet or word processor that is capable of driving a serial printer attached to COM1. To instruct the software to send its output to the correct printer use the MODE command to setup COM1, and then "redirect" the output to COM1 with the command "MODE LPT1:=COM1".

7.3 Using the DoubleDOS SWITCH Program

There is a program called SWITCH.EXE on every DoubleDOS disk. The program is used to exchange the memory sections, the displays, and the keyboard between the VISIBLE program and the INVISIBLE program, or vice versa. It has options to switch to INVISIBLE if VISIBLE, or if already INVISIBLE, stay INVISIBLE; or switch to VISIBLE if INVISIBLE, and if already VISIBLE stay VISIBLE.

It can be used in a BATch file to automatically start a series of programs, make the batch INVISIBLE, and continue processing in the background.

EXAMPLE:

> SWITCH/I (to make or leave the program INVISIBLE)
>
> or
>
> SWITCH/V (to make or leave the program VISIBLE)
>
> or
>
> SWITCH (to cause unconditional toggle)

The file SWITCH.ASM is also included for programmers who want to incorporate its features in a custom program. It's comments with examples show how to use its features as well as an explanation of the other programming benefits and requirements of DoubleDOS.

7.4 Using ANSI.SYS

If a DEVICE=ANSI.SYS statement is currently being used in a CONFIG.SYS file, change it to DEVICE=DBLDANSI.SYS and then copy the file "DBLDANSI.SYS" from the DoubleDOS disk to the system boot disk that contains the file CONFIG.SYS.

The DBLDANSI.SYS file that is provided on the DoubleDOS disk is to be used as a direct replacement for the ANSI.SYS file that came on the PC-DOS disk. The difference is that this version will work either with, or without, DoubleDOS. It functions the same as ANSI.SYS except that the keyboard remapping buffer has been doubled in size. This allows the keyboard assignments of both the TOP MEMORY SECTION and the BOTTOM MEMORY SECTION to be reprogrammed independent of each other. Using the statement "DEVICE=DBLDANSI.SYS" does not affect the operation of the software when it is not being run under DoubleDOS.

Bulletin Board System for DoubleDOS users

The SoftLogic Electronic Bulletin Board System (BBS) is a new service started in September. This system is loaded with good to know information and is live nights from 6 PM to 8 AM (EST) weekdays, and 24 hours on weekends. No passwords are required to browse through the information or to download information for further review.

You can use the BBS to "download" DoubleDOS patch files. These files are used to cure "direct screen writing" problems with many application packages. They are discussed in Chapter 5 of your manual, and complete information is included on the BBS. You also use the BBS to leave messages for the tech support department after hours (their hours are 9 AM - 5 PM EST).

You can access the BBS at either 300 or 1200 baud, using your favorite communications program. The number for reaching the BBS is 603-644-5556.

CHAPTER 8

8.0 Troubleshooting

This chapter is intended to provide some insight into why a problem may have occurred and how to rectify it or prevent its reoccurrence.

The troubleshooting information consists of both error messages and problem situations that can occur. The error messages are listed in alphabetical order. Other problems are listed by the symptom that is produced when the problem occurs. For each problem we explain the message or symptom as well as the probable causes and possible solutions.

8.1 Problems During Installation procedures

These situations are fully covered in the install section of chapter 1.

8.2 Problems When Starting DoubleDOS

This troubleshooting information is for problems related to starting DoubleDOS.

8.2.1 DoubleDOS is already resident

Message: DoubleDOS is already resident

1. Probable cause: If DoubleDOS is running and you attempt to load it again, this message is displayed.

Solution: Do not attempt to load DoubleDOS when it is already running.

2. Possible cause: A program was loaded before DoubleDOS, which has taken over parts of the system normally controlled by DoubleDOS.

Solution: Load DoubleDOS then load the other program, or, do not use the other program with DoubleDOS.

8.2.2 Bad or missing command.com

Message: BAD OR MISSING COMMAND.COM
strike any key to re-boot system

Cause: The file COMMAND.COM is not on the disk which is in the drive that the system was booted from.

Solution: Copy the COMMAND.COM file onto the boot disk, then load DoubleDOS.

8.2.3 Incorrect DOS version

Message: INCORRECT DOS VERSION.
DoubleDOS is not active,
strike any key to re-boot system.

1. Possible cause: DoubleDOS was loaded on a system that was not running with PC-DOS or MS-DOS 2.00 or later.

Solution: Load an acceptable version of DOS, then load DoubleDOS.

8.2.4 Memory allocation error

Message: MEMORY ALLOCATION ERROR

Cause: The memory control blocks used by Double-DOS have been damaged by some active or resident software or by a system error.

Solution: The side of DoubleDOS that did not have the error may still be operational. After any active operation has been completed, re-boot the system and then load DoubleDOS.

8.2.5 File DOUBLED2.PGM not found

Message: FILE DOUBLED2.PGM NOT FOUND.

Cause: The file "doubled2.pgm" could not be found on the default drive, drive A, or drive B.

Solution: Copy "doubled2.pgm" to the default drive, then load DoubleDOS.

8.2.6 Insufficient memory - cannot load doubledos

Message: INSUFFICIENT MEMORY -
CANNOT LOAD DOUBLEDOS
DOS must be RELOADED, type ALT/CTRL/DEL to continue.

Cause: There is not enough "free" memory to load DoubleDOS. This can happen on a system with 128K and a color monitor.

Solution: Add memory to the system.

8.3 Problems While Operating DoubleDOS

This information is for problems which may occur while running programs after DoubleDOS has been successfully loaded.

Symptom: No error message is displayed and all processing stops. The machine must be powered off, or re-boots.
1. Possible cause: You loaded a program which requires more memory than what is available in that memory section.

Solution: Allocate more memory to the section you intend to run the program in.

2. Possible cause: The program is not compatible for operation with DoubleDOS, or the other program which was running.

Solution: Try running the program alone with DoubleDOS to determine if it will run with just DoubleDOS present. If this is successful, then try some other program with it.

Note: The DoubleDOS control menu can often be used to KILL a program which has stopped processing, and return control of that MEMORY SECTION.

Symptom: Displays from the INVISIBLE program display on the VISIBLE programs display.

Cause: The INVISIBLE program is a direct screen writer.

Solution: Either run such programs only as the VISIBLE program, or make such programs INVISIBLE only when they will not change the display.

NOTE: Direct screen writing problems of this type will not damage data in memory or on disk.

Symptom: All displays occur on the line and column of the A and > characters.

Cause: Your CONFIG.SYS file contains the statement DEVICE=ANSI.SYS.

Solution: Change DEVICE=ANSI.SYS to DEVICE
=DBLDANSI.SYS.

Symptom: displays are garbled after starting DoubleDOS.

Cause: Your CONFIG.SYS file contains the state-
ment DEVICE=ANSI.SYS.

Solution: Change DEVICE=ANSI.SYS to DEVICE
=DBLDANSI.SYS.

Symptom: The cursor is erratic when a program is invisible.

Cause: Your CONFIG.SYS file contains the state-
ment DEVICE=ANSI.SYS.

Solution: Change DEVICE=ANSI.SYS to DEVICE
=DBLDANSI.SYS.

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NOTES: